

	Hits	Search Text
1	49	trityl with ((mass near2 (spectrometr\$4 or spectr\$3)) or MALDI or TOF)
2	2	("5547835").PN.
3	875	(436/173,140).CCLS.
4	57	(trityl\$2 or triphenyl\$2) with ((mass near2 (spectrometr\$4 or spectr\$3)) or MALDI or TOF)
5	39	((trityl\$2 or triphenyl\$2) with ((mass near2 (spectrometr\$4 or spectr\$3)) or MALDI or TOF)) and (calibrat\$4 or tag\$4 or label\$3)

09928639

FILE 'CAPLUS' ENTERED AT 17:11:41 ON 10 JUL 2003

L1 1 S (CALIBRAT? OR STANDARD?) (S) (MASS (2W) SPECTR?) (S) TAG?

L2 482 S ((MASS (3A) SPECTR?)OR MALDI OR TOF) (S) TAG?

L3 10 S L2 AND CALIBRAT?

L4 191 S (TAGS OR TAGGING)(S) ((MASS (2A) SPECTR?)OR MALDI OR TOF)

L5 3 S L4 AND TRITYL?

L6 30 S ((MASS (2A) SPECTR?) OR MALDI OR TOF) (S) TRITYL?

L1 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1994:85026 CAPLUS

DOCUMENT NUMBER: 120:85026

TITLE: Initial studies with an internal standard in direct air monitoring MS/MS

AUTHOR(S): Smith, W. Allen; Blaze, Stephen L.; Pritchett, Thomas H.

CORPORATE SOURCE: Roy. F. Weston, Inc., Edison, NJ, USA

SOURCE: Proceedings, Annual Meeting - Air & Waste Management Association (1992), 85th(Vol. 2A), Paper No. 92/67.03, 16 pp.

CODEN: PAMEE5; ISSN: 1052-6102

DOCUMENT TYPE: Journal

LANGUAGE: English

AB To reduce the amt. of calibration time, a method of continually introducing internal std. into the source region of the TAGA 6000E (tandem mass spectrometer) was devised and tested. The material used as the internal std., d5-bromobenzene, was selected because it has no obvious interferences on the parent ions (mass:charge ratios of 161 and 163); bromine isotope peaks give 2 independent measurements; availability; and good vapor pressure properties. The method can be used to calc. results that give a lower percent error than the currently used method at the 95% confidence level.

L3 ANSWER 1 OF 10 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2003:522062 CAPLUS

TITLE: The CDFII time-of-flight detector and impact on beauty flavor tagging

AUTHOR(S): Giagu, Stefano

CORPORATE SOURCE: CDF Collaboration, Fermi National Accelerator Laboratory, USA

SOURCE: Nuclear Physics B, Proceedings Supplements (2003), 120(Beauty 2002), 219-224

CODEN: NPBSE7; ISSN: 0920-5632

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The new CDFII detector incorporates a Time-of-Flight detector (TOF), employing plastic scintillator bars and fine-mesh photomultipliers. Since August 2001 the TOF system has been fully instrumented and integrated into the CDFII data acquisition system. With a design goal of 100 ps resoln. the TOF system will provide at least two std. deviations sepn. between  $K^{+,-}$  and  $\pi^{+,-}$  for momenta  $p < 1.6 \text{ GeV}/c$ ,

complementing low momentum particle identification by means of the specific ionization energy loss measured in the drift chamber. We describe the design of the TOF detector and discuss the current status of its calibration and initial performances. Finally we review the expected impact of the TOF detector in the flavor tagging of neutral B<sup>0</sup>s meson.

L3 ANSWER 2 OF 10 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2003:385490 CAPLUS

TITLE: Dual Electrospray Ionization Source for Confident Generation of Accurate Mass Tags Using Liquid Chromatography Fourier Transform Ion Cyclotron Resonance Mass Spectrometry

AUTHOR(S): Nepomuceno, Angelito I.; Muddiman, David C.; Bergen, H. Robert, III; Craighead, James R.; Burke, Michael J.; Caskey, Patrick E.; Allan, Jonathan A.

CORPORATE SOURCE: W.M. Keck FT-ICR Mass Spectrometry Laboratory, Mayo Proteomics Research Center and the Department of Biochemistry and Molecular Biology the Division of Engineering Mayo Clinic and Foundation, Rochester, MN, 55905, USA

SOURCE: Analytical Chemistry ACS ASAP

CODEN: ANCHAM; ISSN: 0003-2700

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Fourier transform ion cyclotron resonance mass spectrometry (FT-ICR-MS) has rapidly established a prominent role in proteomics because of its unparalleled resolving power, sensitivity and ability to achieve high mass measurement accuracy (MMA) simultaneously. However, space-charge effects must be quant., routinely, and confidently cor. because they are known to profoundly influence MMA. We argue that the most effective way to account for space-charge effects is to introduce an internal mass calibrant (IMC) using a dual electrospray ionization (ESI) source where the IMC is added from a sep. ESI emitter. The major disadvantage of our initial dual ESI source to achieve high MMA, and arguably the only one, was the time required to switch between the analyte emitter and IMC emitter (i.e., >300 ms). While this "switching time" was acceptable for direct infusion expts., it did not lend itself to high-throughput applications or when conducting online liq. sepns. In this report, we completely redesigned the dual ESI source and demonstrate several key attributes. First, the new design allows for facile alignment of ESI emitters, undetectable vibration, and the ability to extend to multiple emitters. Second, the switching time was reduced to <50 ms, which allowed the analyte and IMC to be accumulated "simultaneously" in the external ion reservoir and injected as a single ion packet into the ion cyclotron resonance cell, eliminating the need for a sep. accumulation and ion injection event for the IMC. Third, by using a high concn. of the IMC, the residence time on this emitter could be reduced to apprx.80 ms, allowing for more time spent accumulating analyte ions of significantly lower concn. Fourth, multiplexed online sepns. can be carried out providing increased throughput. Specifically, the new dual ESI source has demonstrated its ability to produce a stable ion current over a 45-min time period at 7 T resulting in mass accuracies of 1.08 ppm +/- 0.11 ppm (mean +/- confidence interval of the mean at 95% confidence; N = 160). In addn., the anal. of a tryptic digest of apomyoglobin by nanoLC-dual ESI-FT-ICR afforded an av. MMA of -

1.09 vs. -74.5 ppm for externally calibrated data. Furthermore, we demonstrate that the amplitude of a peptide being electrosprayed at 25 nM can be linearly increased, ultimately allowing for dynamic analyte/IMC abundance modulation. Finally, we demonstrate that this source can reliably be used for multiplexing measurements from two (eventually more) flow streams.

REFERENCE COUNT: 48

L3 ANSWER 3 OF 10 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2002:718085 CAPLUS

DOCUMENT NUMBER: 137:254464

TITLE: The CDFII time-of-flight detector and impact on beauty flavor tagging

AUTHOR(S): Grozis, C.; Kephart, R.; Stanek, R.; Kim, D. H.; Kim, M. S.; Oh, Y.; Kim, Y. K.; Vermendi, G.; Anikeev, K.; Bauer, G.; Furic, I. K.; Korn, A.; Kravchenko, I.; Mulhearn, M.; Paus, Ch.; Pavlon, S.; Sumorok, K.; Chen, C.; Jones, M.; Kononenko, W.; Kroll, J.; Mayers, G. M.; Newcomer, M.; Oldeman, R. G. C.; Usynin, D.; Van Berg, R.; Bellettini, G.; Cerri, C.; Menzione, A.; Dececco, S.; Depedis, D.; Dionisi, C.; Giagu, S.; DiGirolamo, A.; Rescigno, M.; Zanello, L.; Cabrera, S.; Fernandez, J.; Gomez, G.; Piedra, J.; Rodrigo, T.; Ruiz, A.; Vila, I.; Vilar, R.; Ahn, M.; Kim, B. J.; Kim, S. B.; Cho, I.; Lee, J.; Yu, I.; Kaneko, H.; Kazama, A.; Kim, S.; Sato, K.; Sato, K.; Ukegawa, F.  
CORPORATE SOURCE: Fermi National Accelerator Laboratory, USA

SOURCE: Los Alamos National Laboratory, Preprint Archive, High Energy Physics--Experiment (2002) 1-8, arXiv:hep-ex/0209027, 13 Sep 2002

CODEN: LNHEFS

URL: <http://xxx.lanl.gov/pdf/hep-ex/0209027>

PUBLISHER: Los Alamos National Laboratory

DOCUMENT TYPE: Preprint

LANGUAGE: English

AB The new CDFII detector incorporates a time-of-flight detector (TOF), employing plastic scintillator bars and fine-mesh photomultipliers. Since August 2001, the TOF system has been fully instrumented and integrated into the CDFII data acquisition system. With a design goal of 100 ps resolu. the TOF system will provide at least two std. deviations sepn. between  $K^+_{\pi^-}$  and  $\pi^+_{\pi^-}$  for momenta  $p < 1.6$  GeV/c, complementing low momentum particle identification by means of the specific ionization energy loss measured in the drift chamber. We describe the design of the TOF detector and discuss the current status of its calibration and initial performances. Finally, we discuss the expected impact of the TOF detector in the flavor tagging of the neutral  $B_s$ -meson.

REFERENCE COUNT: 10

L3 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2000:189332 CAPLUS

DOCUMENT NUMBER: 132:287965

TITLE: Influence of heavy ion irradiation damage on silicon charged particle detector calibration

AUTHOR(S): Zhang, Y.; Whitlow, H. J.; Winzell, T.

CORPORATE SOURCE: P.O. Box 534, Angstrom Laboratory, Division of Ion Physics, Uppsala University, Uppsala, SE-751 21, Swed.

SOURCE: Nuclear Instruments & Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms (2000), 161-163, 297-301

CODEN: NIMBEU; ISSN: 0168-583X

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The full anal. potential of heavy ion backscattering and elastic recoil detection anal. (ERDA) depends critically on establishing a reliable energy calibration. To make accurate measurements of thin film samples the authors have studied the changes in the energy calibration of a Si p+-n-n+ charged particle detector subjected to heavy ion irradiation over 24 h in a time of flight-energy elastic recoil detection anal. (ToF-ERDA) measurement. A set of similar Al/ZrO<sub>2</sub>/Zr samples were analyzed sequentially with 60 MeV <sup>127</sup>I<sup>11+</sup> ions. The calibration change for <sup>16</sup>O, <sup>27</sup>Al and <sup>90-92</sup>Zr, <sup>95</sup>Zr were monitored by tagging individual recoils with their energy derived from the ToF. The calibration parameters for a wider range of elements (Li-Ag) were measured before and after the sequential irradiation with O, Al, Zr and I atoms. The results show that the change in the calibration could be characterized by an increase in the energy interval spanned by one channel and a slight decrease in the channel zero energy. The calibration shift for a given projectile at. no. depends linearly on the fluence of heavy particles impinging on the detector and the consequential increase in detector leakage current. For similar irradiation conditions, a correction to account for the calibration shift may be simply determined for each sample from the no. of heavy recoil counts registered or from the change in leakage current. Also, the Si charged particle detector calibration depends on recoil at. no. both before, and after, the heavy ion irradiation. The fluence-induced calibration shift for different recoils can be described by a linear dependence on recoil at. no.

REFERENCE COUNT: 28

L3 ANSWER 7 OF 10 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1999:321078 CAPLUS

DOCUMENT NUMBER: 131:127300

TITLE: "A single generic microbore liquid chromatography/time-of-flight mass spectrometry solution for the simultaneous accurate mass determination of compounds on single beads, the decoding of dansylated orthogonal tags pertaining to compounds and accurate isotopic difference target analysis"

AUTHOR(S): Lane, Stephen J.; Pipe, Adrian

CORPORATE SOURCE: Physical Sciences Unit, Glaxo Wellcome, Stevenage, SG1 2NY, UK

SOURCE: Rapid Communications in Mass Spectrometry (1999), 13(9), 798-814

CODEN: RCMSEF; ISSN: 0951-4198

PUBLISHER: John Wiley & Sons Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A single generic microbore liq. chromatog. diode array/time-flight

mass spectrometry method has been developed that provides accurate mass on sepd. compds. cleaved from single beads and/or the decoding of orthogonal tags pertaining to the compd. in one run. The method is suitable for encoded or non-encoded libraries. Accurate mass measurement within 5 ppm can be routinely achieved allowing differentiation of isobaric compds. in degenerate libraries. Accurate mass chromatograms can be used to resolve tag responses from polyethylene glycol background interference. Accurate isotope mass differences coupled with intensity ratios can be used for highly specific isotopic target anal. for compds. of unknown mol. wt. but with a characteristic accurate isotope pattern. Accurate instrument calibration is not necessary with this approach to target anal.

REFERENCE COUNT: 11

L5 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2002:46851 CAPLUS

DOCUMENT NUMBER: 136:398091

TITLE: *Trityl tags for encoding in combinatorial oligonucleotide synthesis*

AUTHOR(S): *Shchepinov, Mikhail S.; Chalk, Rod; Southern, Edwin M.*

CORPORATE SOURCE: *Department of Biochemistry, Oxford University, Oxford, OX1 3QU, UK*

SOURCE: *Innovation and Perspectives in Solid Phase Synthesis & Combinatorial Libraries: Peptides, Proteins and Nucleic Acids—Small Molecule Organic Chemistry Diversity, Collected Papers, International Symposium, 6th, York, United Kingdom, Aug. 31-Sept. 4, 1999 (2001), Meeting Date 1999, 207-212. Editor(s): Epton, Roger. Mayflower Scientific Ltd.: Kingswinford, UK.*

CODEN: 69CEGV; ISBN: 0-9515735-3-5

DOCUMENT TYPE: Conference

LANGUAGE: English

AB A new method of encoding has been developed based on the high desorption rate of triphenylmethyl-based tags under the conditions of LDI- TOF-MS, which is simpler than chromatog.-based methods. The trityl cations can be detected by LDI-TOF anal. with or without matrix. Combinatorial libraries of oligonucleotides on TentaGel were synthesized by a split- and mix-strategy using 5'-DMT or 5'-Fmoc nucleoside phosphoramidites. Trityls with different masses were utilized to tag the bases coupled at each step in the synthesis, by coupling different amines to activated carboxyl groups on the trityl moiety. Hybridization from the library selected the beads with specific oligonucleotide. The tags, which desorb and fly extremely well in the pos. mode of a LDI process, may be cleaved by either an acid or directly by laser during (MA) LDI-TOF. These tags are capable for encoding in strategies not involving strong acids, such as oligonucleotide and peptide synthesis and small mol. combinatorial libraries.

REFERENCE COUNT: 9

L5 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2000:303581 CAPLUS

DOCUMENT NUMBER: 133:105250

TITLE: *Trityl tags for encoding in combinatorial synthesis*

AUTHOR(S): *Shchepinov, Mikhail S.; Chalk, Rod; Southern, Edwin M.*

CORPORATE SOURCE: Department of Biochemistry, University of Oxford,  
Oxford, OX1 3QU, UK

SOURCE: *Tetrahedron* (2000), 56(17), 2713-2724

CODEN: TETRAB; ISSN: 0040-4020

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 133:105250

AB New tags and an encoding strategy for combinatorial synthesis are described. Combinatorial libraries of short oligonucleotides attached to TentaGel beads were synthesized by a split-and-mix strategy using 5'-DMTr or 5'-Fmoc-protected nucleoside phosphoramidites. Trityl moieties with different masses were used to tag the nature and position of monomer units (bases) coupled at each step in the synthesis. Beads with a specific oligonucleotide were selected by hybridization from combinatorial libraries. Tags orthogonal to the added nucleotides were produced by coupling amines of different mol. masses to an activated carboxyl group(s) on the trityl moiety. The tags may be released from the support by an acidic treatment or laser irradiation and then analyzed by (MA)LDI-TOF. These properties make trityl-based tags promising for encoding in strategies not involving strong acids, such as oligonucleotide and peptide synthesis and small mol. combinatorial libraries.

REFERENCE COUNT: 60

L5 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2000:124983 CAPLUS

DOCUMENT NUMBER: 132:279462

TITLE: *Trityl mass-tags for encoding in combinatorial oligonucleotide synthesis*

AUTHOR(S): Shchepinov, Mikhail S.; Chalk, Rod; Southern, Edwin M.

CORPORATE SOURCE: Department of Biochemistry, University of Oxford,  
Oxford, OX1 3QU, UK

SOURCE: *Nucleic Acids Symposium Series* (1999), 42 (*Twentysixth Symposium on Nucleic Acids Chemistry*, 1999), 107-108

CODEN: NACSD8; ISSN: 0261-3166

PUBLISHER: Oxford University Press

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A symposium. Combinatorial libraries of oligonucleotides on beads were synthesized by a split-and-mix strategy using 5'-DMTr- or 5'-Fmoc- nucleoside phosphoramidites. Trityl moieties with different masses were used to encode for the bases coupled at each step in the synthesis of oligonucleotides selected by hybridization from the libraries. Tags orthogonal to the nucleotides added were produced by coupling amines of different MW to an activated carboxyl group(s) on the trityl moiety. Tags can be released from the support by laser irradiation and measured directly by TOF without matrix. Alternatively, they may be released by an acidic treatment and then analyzed by (MA)LDI-TOF.

REFERENCE COUNT: 7

L6 ANSWER 1 OF 30 CAPLUS COPYRIGHT 2003 ACS  
ACCESSION NUMBER: 2002:142992 CAPLUS  
DOCUMENT NUMBER: 136:177247  
TITLE: Mass spectrometry for measuring the molecular mass of a compound  
INVENTOR(S): Shchepinov, Mikhail Sergeevich  
PATENT ASSIGNEE(S): Isis Innovation Limited, UK  
SOURCE: PCT Int. Appl., 12 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
PATENT NO. KIND DATE APPLICATION NO. DATE

-----  
WO 2002014856 A2 20020221 WO 2001-GB3604 20010809  
WO 2002014856 A3 20021227  
AU 2001078592 A5 20020225 AU 2001-78592 20010809  
EP 1309855 A2 20030514 EP 2001-956668 20010809  
US 2002045269 A1 20020418 US 2001-928639 20010813  
PRIORITY APPLN. INFO.: GB 2000-19994 A 20000814  
US 2000-248027P P 20001113  
WO 2001-GB3604 W 20010809

AB The invention provides a method of measuring the mol. mass of a compd. Y of unknown mol. mass by mass spectrometry, comprising providing a sample of compd. Y, providing samples of at least two different compds. each (I) R-X in which R is a trityl group and X is cleavable to form a charged species for mass spectrometry, and recording the mol. mass of compd. Y and the at least two compds. (I) may be used as calibration compds. for mass spectrometry. They may also be used in a kit for the prodn. of calibration compds. mass spectrometry comprising: (a) at least one base reactant (I) R-X where R is a trityl group and X is cleavable to form a charged species for mass spectrometry and (b) at least two different amine compds. which are of different mol. masses and which are each capable of reacting with the base reactant and base reactant (a) is packaged sep. from amine compds. (b).

L6 ANSWER 4 OF 30 CAPLUS COPYRIGHT 2003 ACS  
ACCESSION NUMBER: 2000:12267 CAPLUS  
DOCUMENT NUMBER: 132:152083  
TITLE: "Electrospray mass spectrometry of phosphoramidites, a group of acid-labile compounds"  
AUTHOR(S): Kele, Zoltan; Kupihar, Zoltan; Kovacs, Lajos; Janaky, Tamas; Szabo, Pal T.  
CORPORATE SOURCE: Department of Medical Chemistry, Albert Szent-Gyorgyi Medical University, Szeged, H-6720, Hung.  
SOURCE: **Journal of Mass Spectrometry** (1999), 34(12), 1317-1321  
CODEN: JMSPFJ; ISSN: 1076-5174  
PUBLISHER: John Wiley & Sons Ltd.  
DOCUMENT TYPE: Journal  
LANGUAGE: English



AB In contemporary solid-phase synthesis of oligonucleotides, phosphoramidites contg. O-beta.-cyanoethyl and N,N-diisopropyl groups are the most widespread monomer units. The N,N-diisopropyl phosphoramidite group can be activated by mild acidic treatment and then it easily reacts with nucleophiles (alcs., water, etc.) to furnish the required phosphodiester linkage efficiently and cleanly. Owing to these properties, these compds. cannot be investigated using classical electrospray ionization. Their mass spectrometric anal. is further hampered by the fact that they are often transiently protected with acid-sensitive groups (4,4'-dimethoxytrityl, 4-monomethoxytrityl or trityl), which give intense signals in the spectra. Nanoelectrospray measurements from non-aq. solvents (e.g. acetonitrile, methanol, tetrahydrofuran) were carried out in order to eliminate the nucleophilic water. Different types of alkali metal salts were used to form adduct ions. Among these salts, lithium chloride was found to be the most suitable for the anal. of amidites. Fairly abundant  $[M + Li]^+$  and  $[M + Cl]^-$  ions are formed in the pos. and neg. ion mode, resp. These ions represent the base peaks in most cases whereas the intensities of the peaks corresponding to the protecting group are reduced by apprx.20%. This method is a powerful tool for the mass spectrometric identification of phosphoramidites.

REFERENCE COUNT: 27

L6 ANSWER 5 OF 30 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1999:753247 CAPLUS

DOCUMENT NUMBER: 132:1818

TITLE: "Reagent and method"

INVENTOR(S): Southern, Edwin Mellor; Shchepinov, Mikhail Sergeevich; Housby, John Nicholas; Hamilton, Alan Lewis; Elder, John Kenneth

PATENT ASSIGNEE(S): Isis Innovation Limited, UK

SOURCE: PCT Int. Appl., 66 pp.

CODEN: PIXXD2

PATENT NO. KIND DATE APPLICATION NO. DATE

WO 9960007 A2 19991125 WO 1999-GB1561 19990517

WO 9960007 A3 20000120

CA 2332862 AA 19991125 CA 1999-2332862 19990517

AU 9939437 A1 19991206 AU 1999-39437 19990517

EP 1068216 A2 20010117 EP 1999-922334 19990517

JP 2002515588 T2 20020528 JP 2000-549625 19990517

PRIORITY APPLN. INFO.: EP 1998-303873 A 19980515

WO 1999-GB1561 W 19990517

AB A method of making a set of labeled compds. by the use of a preferably particulate support, comprises dividing the support into lots, performing a different chem. reaction on each lot of the support, e.g. to couple a chem. moiety to that lot of the support, tagging a fraction of each lot of the support with a different label, and combining the said lots of the support. The steps are repeated several times, preferably to build up oligomer mols. carrying labels which identify the nature and position of a monomer unit of the oligomer, and which are releasable from the support. Preferred labels, which are releasable from the compds. by cleavage to provide charged groups for anal. by mass spectrometry, are

groups of the trityl (trimethylphenyl) family. Also claimed are libraries of these labels and their use in assays and nucleic acid anal. methods.

L6 ANSWER 6 OF 30 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1996:546522 CAPLUS

DOCUMENT NUMBER: 125:214241

TITLE: Sanger DNA sequencing by mass spectrometry using base-specific chain termination and elongation, primer modification, nested fragments, reversible immobilization, and tag-specific probes

INVENTOR(S): Koster, Hubert

PATENT ASSIGNEE(S): Sequenom, Inc., USA

SOURCE: U.S., 58 pp., Cont.-in-part of U.S. Ser. No. 1,323,abandoned.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 18

PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE

-----  
US 5547835 A 19960820 US 1994-178216 19940106

CA 2153387 AA 19940721 CA 1994-2153387 19940106

EP 1262564 A2 20021204 EP 2002-16384 19940106

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE

US 5605798 A 19970225 US 1995-406199 19950317

US 5691141 A 19971125 US 1995-470123 19950606

US 6225450 B1 20010501 US 1995-481033 19950607

US 6194144 B1 20010227 US 1996-617010 19960318

AU 9891379 A1 19990114 AU 1998-91379 19981106

AU 738203 B2 20010913

US 6238871 B1 20010529 US 2000-566591 20000508

AU 758454 B2 20030320 AU 2000-42518 20000619

PRIORITY APPLN. INFO.: US 1993-1323 B2 19930107

AU 1994-59929 A3 19940106 EP 1994-906047 A3 19940106 US 1994-178216

A2 19940106 US 1996-617010 A1 19960318 AU 1996-55446 A3 19960410

AB The invention describes a new method to sequence DNA. The improvements over the existing DNA sequencing technologies are high speed, high throughput, no electrophoresis and gel reading artifacts due to the complete absence of an electrophoretic step, and no costly reagents involving various substitutions with stable isotopes. The invention utilizes the Sanger sequencing strategy and assembles the sequence information by anal. of the nested fragments obtained by base-specific chain termination via their different mol. masses using mass spectrometry, as for example, MALDI or ES mass spectrometry. A further increase in throughput can be obtained by introducing mass-modifications in the oligonucleotide primer, chain-terminating nucleoside triphosphates and/or in the chain-elongating nucleoside triphosphates, as well as using integrated tag

sequences which allow multiplexing by hybridization of tag specific probes with mass differentiated mol. wts.

L6 ANSWER 7 OF 30 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1996:390974 CAPLUS

DOCUMENT NUMBER: 125:115382

TITLE: Chemical end-group derivatization of poly(ethylene glycol) - investigation by matrix-assisted laser desorption/ionization mass spectrometry

AUTHOR(S): Weidner, St.; Kuehn, G.

CORPORATE SOURCE: Fed. Inst. Mater. Res. Test. (BAM), Berlin, 12205, Germany

SOURCE: Rapid Communications in Mass Spectrometry (1996), 10(8), 942-946

CODEN: RCMSEF; ISSN: 0951-4198

PUBLISHER: Wiley

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The functionalization (etherification) of poly(ethylene glycol) could be rapidly investigated using matrix-assisted laser desorption/ionization mass spectrometry (MALDI/MS). The decrease of unsubstituted PEG and the increasing formation of functionalized end-groups were detd. as a function of reaction time. As expected, the ionization probabilities of functionalized and unfunctionalized polymers were different. Thus, a quant. assessment based on a comparison of peak intensities and peak areas of these species to ascertain their relative amts. in a mixt. must be investigated further. MALDI/MS may represent an addnl. efficient method for the characterization of polymer reactions.

L6 ANSWER 8 OF 30 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1996:367060 CAPLUS

DOCUMENT NUMBER: 125:81189

TITLE: Application of capillary electrophoresis-electrospray ionization mass spectrometry in the determination of molecular diversity

AUTHOR(S): Dunayevskiy, Yuriy M.; Vouros, Paul; Wintner, Edward A.; Shipps, Gerald W.; Carell, Thomas; Rebek, Julius, Jr.

CORPORATE SOURCE: Dep. Chem., Northeastern Univ., Boston, MA, 02115, USA

SOURCE: Proceedings of the National Academy of Sciences of the United States of America (1996), 93(12), 6152-6157

CODEN: PNASA6; ISSN: 0027-8424

PUBLISHER: National Academy of Sciences

DOCUMENT TYPE: Journal

LANGUAGE: English

AB By capillary electrophoresis coupled online to electrospray ionization MS, a library of theor. 171 distributed xanthene derivs. was analyzed. The method allowed the purity and makeup of the library to be detd.: 160 of the expected compds. were found to be present, and 12 side-products were also detected in the mixt. Due to the ability of capillary electrophoresis to sep. analytes on the basis of charge, most of the xanthene derivs. could be resolved by simple capillary electrophoresis-MS procedures even though 124 of the 171 theor. compds. were isobaric with gto req. 1 other mol. in the mixt. Any

remaining unresolved peaks were resolved by MS/MS expts. The method shows promise for the anal. of small combinatorial libraries with <1000 components.

L6 ANSWER 9 OF 30 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1995:320806 CAPLUS

DOCUMENT NUMBER: 122:115114

TITLE: Trace analysis of impurities in 3'-azido-3'-deoxythymidine by reversed-phase high-performance liquid chromatography and thermo-spray mass spectrometry

AUTHOR(S): Almudaris, Arkan; Ashton, David S.; Ray, Andrew; Valko, Klara

CORPORATE SOURCE: Department of Physical Sciences, Wellcome Research Laboratories, Langley Court, Beckenham Kent, BR3 3BS, UK

SOURCE: Journal of Chromatography, A (1995), 689(1), 31-8

CODEN: JCRAEY; ISSN: 0021-9673

PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

AB An anal. method was developed for the detection of trace amts. of impurities in 3'-azido-3'-deoxythymidine (AZT or zidovudine). A sample ext. was preconcd. by normal-phase HPLC with subsequent online reversed-phase HPLC-thermo-spray mass spectrometry (TSP-MS). During the sample extn. and concn. step, carried out by semipreparative normal-phase chromatog., the preliminary sepn. of the impurities from the AZT takes place. The org. solvent, dichloroethane-MeCN (40:60) is evapd. from the collected fractions and the compds. are redissolved in a smaller vol. of the reversed-phase mobile phases for a further degree of concn. The collected fractions are then subjected to reversed-phase HPLC-TSP-MS. The influence of MeCN concn. and pH on the reversed-phase sepn. together with the sensitivity of the TSP-MS detection have been examd. to maximize detection levels. The 3'-azido-3'-deoxy-5'-O-tritylthymidine, triphenylmethanol and 3'-chloro-3'-deoxythymidine, which are route-indicative impurities formed during the synthesis can be detected in the 50-100 ppb (wt./wt.) range.

L6 ANSWER 10 OF 30 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1994:409836 CAPLUS

DOCUMENT NUMBER: 121:9836

TITLE: "Preparation of di-O-triphenylmethyl-(trityl-)cyclomalto-octaoses, and isolation and characterization by "hex-5-enose degradation" of four positional isomers"

AUTHOR(S): Tanimoto, Toshiko; Sakaki, Tomoko; Koizumi, Kyoko

CORPORATE SOURCE: Fac. Pharm. Sci., Mukogawa Women's Univ., Nishinomiya, 663, Japan

SOURCE: Chemical & Pharmaceutical Bulletin (1993), 41(5), 866-9

CODEN: CPBTAL; ISSN: 0009-2363

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Four regioisomeric detritylated derivs. of cyclomalto-octaose (I, cG8),

namely, 61,6n-di-O-trityl-cG8s have been prepd. by the reaction of I with chlorotriphenylmethane in pyridine and isolated by high-performance liq. chromatog. The regiochem. detn. of the four ditrityl-substituted derivs. has been achieved by means of the "hex-5-enose degrdn.," followed by examn. of the products by fast-atom bombardment mass spectrometry.  
IT 76-84-6, Triphenylmethanol 25526-94-7 29706-84-1, 3'-Azido-3'-deoxy-5'-O-tritylthymidine 30516-87-1, Zidovudine RL: ANT (Analyte); ANST (Analytical study) (trace anal. of impurities in zidovudine by reversed-phase HPLC and thermo-spray mass spectrometry)

L6 ANSWER 11 OF 30 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1994:192293 CAPLUS

DOCUMENT NUMBER: 120:192293

TITLE: Investigation of a series of neuroactive glycine dipeptide derivatives by fast-atom bombardment and mass-selected collision-induced dissociation mass spectrometry

AUTHOR(S): Henczi, Maria; Weaver, Donald F.

CORPORATE SOURCE: Dep. Chem., Queen's Univ., Kingston, ON, K7L 3N6, Can.

SOURCE: Rapid Communications in Mass Spectrometry (1994), 8(1), 134-8

CODEN: RCMSEF; ISSN: 0951-4198

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Glycylglycine and 36 related acetamide derivs. were synthesized and investigated by fast-atom bombardment mass spectrometry. The protonated mols. were mass selected and their collision-induced dissocns. were analyzed by tandem mass spectrometry. The data obtained allow a fragmentation pattern to be established for these Gly-Gly analogs and permit detailed structural information on the main fragment ions to be ascertained.

L6 ANSWER 12 OF 30 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1992:490436 CAPLUS

DOCUMENT NUMBER: 117:90436

TITLE: Reactions of [(eta-6-C6(CH3)6)Mn(CO)2(eta-1-SCHSCPh3)]BF4: fast atom bombardment tandem mass spectrometry of dithioformate and thioformamide complexes. Crystal structure of [(eta-6-C6(CH3)6)Mn(CO)2SCHNEt2]+ BF4-

AUTHOR(S): Moler, Jeffrey L.; Eyman, Darrell P.; Mallis, Larry M.

CORPORATE SOURCE: Dep. Chem., Univ. Iowa, Iowa City, IA, 52242, USA

SOURCE: Inorganic Chemistry (1992), 31(10), 1816-22

CODEN: INOCAJ; ISSN: 0020-1669

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 117:90436

AB The reaction of [(eta-6-C6(CH3)6)Mn(CO)2SC(S)H (I) with Ph3C+ BF4- affords the adduct [(eta-6-C6(CH3)6)Mn(CO)2SCHSCPh3]+ BF4- (II). Subsequent reaction of II with the nucleophiles HNEt2, aniline, H2NPh, and H2NCMe3 produces [(eta-6-C6(CH3)6)Mn(CO)2SCHNEt2]+ BF4- (III), [(eta-6-C6(CH3)6)Mn(CO)2SCHNHPH]+ BF4- (IV), and [(eta-6-C6(CH3)6)Mn(CO)2SCHNHCM3]+ BF4- (V), resp. The mass spectra of I-V and [(eta-6-C6(CH3)6)Mn(CO)2]2(mu-2-eta-2-SC(S)H)+ have been

investigated using fast-atom-bombardment tandem mass spectrometry (FAB-MS/MS). Structural characterization and fragmentation patterns are derived from the collision-induced dissociation tandem mass spectra. The C-N single-bond cleavage within the N-substituted thioformamides is observed. Compds. II-V were also characterized by FTIR FAB MS and <sup>1</sup>H and <sup>13</sup>C NMR spectroscopies. The structure of III was also determined by an x-ray crystal structure study.

L6 ANSWER 13 OF 30 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1992:152200 CAPLUS

DOCUMENT NUMBER: 116:152200

TITLE: Preparation of di-O-triphenylmethyl- (trityl-) cyclomaltohexaoses and -cyclomaltoheptaoses and characterization of three positional isomers of each by the hex-5-enose degradation

AUTHOR(S): Tanimoto, Toshiko; Tanaka, Mari; Yuno, Tomoko; Koizumi, Kyoko

CORPORATE SOURCE: Fac. Pharm. Sci., Mukogawa Women's Univ., Nishinomiya, 663, Japan

SOURCE: Carbohydrate Research (1992), 223, 1-10

CODEN: CRBRAT; ISSN: 0008-6215

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Regioisomeric 61,6n-di-O-trityl-cyclomaltohexaoses or -cyclomaltoheptaoses were prepared by the reaction of cyclomaltohexaose or cyclomaltoheptaose with chlorotriphenylmethane in pyridine and isolation by HPLC. The regiochemistry determined of each 3 ditrityl-substituted derivatives has been accomplished by the "hex-5-enose degradation", followed by measurement of their fast-atom-bombardment mass spectra.

L6 ANSWER 14 OF 30 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1989:154345 CAPLUS

DOCUMENT NUMBER: 110:154345

TITLE: The gas-phase ion chemistry of methyl and ethyl borates

AUTHOR(S): Hettich, R. L.; Cole, T.; Freiser, B. S.

CORPORATE SOURCE: Dep. Chem., Purdue Univ., West Lafayette, IN, 47907, USA

SOURCE: International Journal of Mass Spectrometry and Ion Processes (1987), 81, 203-15

CODEN: IJMPDN; ISSN: 0168-1176

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The fragmentation of alkyl borates appears to be controlled by the ability of the O to stabilize the positive charge of the fragment ions. Medium-resolution mass spectrometry suggests structural assignments which are consistent with this assumption. For example, the ions of m/z 59 and m/z 43 for B(OMe)<sub>3</sub>, are assigned to be MeOB:OH<sup>+</sup> and MeO:BH<sup>+</sup>, respectively, and not BO<sub>3</sub><sup>+</sup> and BO<sub>2</sub><sup>+</sup> as previously reported. Several additional experimental procedures were used to further verify the structural assignments. Collision-induced dissociation was utilized to investigate the fragmentation pathways. Ion/molecule reactions indicated that many of these fragment ions contain a -B:O<sup>+</sup> unit which is susceptible to nucleophilic attack. Proton affinity bracketing methods were used to obtain thermodynamic

values for doubly bonded B mols. For MeOB:O, a proton affinity of 183  $\pm$  3 kcal mol<sup>-1</sup> and a heat of formation of -110  $\pm$  26 kcal mol<sup>-1</sup> were detd. For MeB:CH<sub>2</sub>, a previously reported proton affinity value of 220.5  $\pm$  2 kcal mol<sup>-1</sup> suggests a heat of formation of 31  $\pm$  6 kcal mol<sup>-1</sup>. These values, as well as bond strengths, are compared with similar carbon compds.

L6 ANSWER 15 OF 30 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1989:134977 CAPLUS

DOCUMENT NUMBER: 110:134977

TITLE: Therapeutically active di(1-propenyl) disulfides and their preparation

INVENTOR(S): Hiramitsu, Tokiyuki

PATENT ASSIGNEE(S): Nippon Mectron Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

PATENT NO. KIND DATE APPLICATION NO. DATE

-----  
JP 63290859 A2 19881128 JP 1987-123700 19870522

US 5011975 A 19910430 US 1989-380468 19890717

PRIORITY APPLN. INFO.: JP 1987-123700 19870522

OTHER SOURCE(S): MARPAT 110:134977

AB trans- Or cis- MeCH:CHSSCH:CHMe (I), the biol. active garlic components, are prepd. selectively by treating YXC:CHSA [A = protective group which could be eliminated by halogenating agent; (X, Y) = (Me, H), (H, Me)] with halogenating agents. A soln. of 4.74 g trans-1-propenyl trityl sulfide (prepn. given) in THF was treated with H<sub>2</sub>O and iodine at room temp. for 30 min to give 620 mg trans-I, whose NMR, IR, and mass spectral data matched those of trans-I extd. from garlic.

L6 ANSWER 17 OF 30 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1985:610263 CAPLUS

DOCUMENT NUMBER: 103:210263

TITLE: "Mass spectroscopic sequence analysis of oligonucleotides"

AUTHOR(S): *Grotjahn, Lutz; Bloecker, Helmut; Frank, Ronald*

CORPORATE SOURCE: Ges. Biotechnol. Forsch. m.b.H., Braunschweig, D-3300, Fed. Rep. Ger.

SOURCE: **Biomedical Mass Spectrometry (1985), 12(9), 514-24**

CODEN: BMSYAL; ISSN: 0306-042X

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Neg.-ion fast-atom-bombardment (FAB) mass spectroscopy is used for sequencing fully deprotected oligonucleotides, 5'-tritylated oligonucleotides, and neg. charged protected oligonucleotides. The mass spectrometric bidirectional sequence anal. allows characterization of modified oligonucleotides, even those where all classical sequencing methods have so far failed. Examples from each class of compd. are illustrated and the problems and methodol. are discussed.

L6 ANSWER 18 OF 30 CAPLUS COPYRIGHT 2003 ACS  
ACCESSION NUMBER: 1985:549501 CAPLUS  
DOCUMENT NUMBER: 103:149501  
TITLE: Electrochemical reduction of .alpha.-unsaturated carbonyl compounds - VIII.  
Cleavage of aryltritylketones in aprotic dimethylformamide  
AUTHOR(S): Delaunay, Jacques; Orliac-le Moing, Armelle; Simonet, Jacques  
CORPORATE SOURCE: Lab. Electrochim., Univ. Rennes, Rennes, 35042, Fr.  
SOURCE: Electrochimica Acta (1985), 30(8), 1109-10  
CODEN: ELCAAV; ISSN: 0013-4686  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
AB Aryl trityl ketones (ArCOR) were reduced in aprotic deoxygenated DMF. Product distribution after electrolysis showed the formation of a diester involving the solvent and the formation of ArCO radical provoked by the cleavage of the C-C bond of the anion radical. This kind of cleavage is somewhat different to that of the carbinol (2-electron redn.) in the presence of electrogenerated bases which affords the corresponding aldehyde ArCOH.

L6 ANSWER 19 OF 30 CAPLUS COPYRIGHT 2003 ACS  
ACCESSION NUMBER: 1983:125226 CAPLUS  
DOCUMENT NUMBER: 98:125226  
TITLE: Some aspects of chemical ionization mass spectrometry using ammonia, diethylamine and various other reactant gases  
AUTHOR(S): Gower, J. L.; Edser, R. J.; Risbridger, G. D.  
CORPORATE SOURCE: Beecham Pharm. Res. Div., Chemother. Res. Cent., Betchworth/Surrey, RH3 7AJ, UK  
SOURCE: International Journal of Mass Spectrometry and Ion Physics (1983), 47, 467-70  
CODEN: IJMIBY; ISSN: 0020-7381  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
AB Substitution reactions between NH<sub>3</sub> and several simple arom. compds. contg. good leaving groups have been studied with the use of ND<sub>3</sub> as an aid to the anal. of the NH<sub>3</sub> chem.-ionization mass spectra. The use of several chem.-ionization reactant gases introduced via the septum inlet of the VG 70-70 mass spectrometer is described, particularly the use of Et<sub>2</sub>NH for the mol.-wt. detn. of trityl compds.

L6 ANSWER 20 OF 30 CAPLUS COPYRIGHT 2003 ACS  
ACCESSION NUMBER: 1983:106665 CAPLUS  
DOCUMENT NUMBER: 98:106665  
TITLE: Mass spectral study of triphenylmethane derivatives  
AUTHOR(S): Balla, J.; Brlik, J.  
CORPORATE SOURCE: Inst. Gen. Anal. Chem., Tech. Univ., Budapest, H-1111, Hung.  
SOURCE: International Journal of Mass Spectrometry and Ion Physics (1983), 47, 495-8  
CODEN: IJMIBY; ISSN: 0020-7381  
DOCUMENT TYPE: Journal



LANGUAGE: English

AB The mass spectra of RC<sub>6</sub>H<sub>4</sub>CR<sub>1</sub>Ph<sub>2</sub> (R = H; p-, m-, o-OH; o-, p-OMe; o-CMe<sub>3</sub>, p-CPh<sub>3</sub>, p-CH<sub>2</sub>OH; R<sub>1</sub> = H, CH<sub>2</sub>OH, OPh<sub>3</sub>, OMe) were recorded. The characteristic fragmentation is the formation of a trityl cation. In short-chain trityl ethers, the sigma-bond between the alpha-C atom and O atom is relatively strong.

L6 ANSWER 22 OF 30 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1978:596411 CAPLUS

DOCUMENT NUMBER: 89:196411

TITLE: Electron-impact-induced fragmentation of N-(triarylmethyl)- and N-(triarylsilyl)triarylphosphin imines

AUTHOR(S): Yolles, Seymour; Sartori, Mario F.; Woodland, James H.

CORPORATE SOURCE: Dep. Chem., Univ. Delaware, Newark, DE, USA

SOURCE: Journal of Chemical and Engineering Data (1978), 23(3), 260-1

CODEN: JCEAAX; ISSN: 0021-9568

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The mass spectra of 18 phosphinimines are tabulated. The cleavage products of RC<sub>6</sub>H<sub>4</sub>CPh<sub>2</sub>N:PPH<sub>3</sub> (R = N, 4MeO, 3- or 4-F) are similar to those reported (1970) for PhN:PPH<sub>3</sub> and its derivs.

L6 ANSWER 23 OF 30 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1973:537434 CAPLUS

DOCUMENT NUMBER: 79:137434

TITLE: Unexpected reaction of 3'-O-trityluridine in the presence of sodium hydride

AUTHOR(S): Kowollik, Gotthard; Otto, Albrecht; Etzold, Gerhard; Langen, Peter

CORPORATE SOURCE: Zentralinst. Molekularbiol., Akad. Wiss., Berlin, Ger. Dem. Rep.

SOURCE: Zeitschrift fuer Chemie (1973), 13(6), 217

CODEN: ZECEAL; ISSN: 0044-2402

DOCUMENT TYPE: Journal

LANGUAGE: German

GI For diagram(s), see printed CA Issue.

AB Benzoylation of 3'-O-trityluridine according to W. Pfeleiderer et al. (1970) in benzene-dioxane in the presence of NaH followed by detritylation gave besides the main products, 2'- and 5'-O-benzyluridine, small amts. of the unexpected diphenylmethylened. I, which was identified by high-resolution mass spectrometry and independent synthesis.

L6 ANSWER 24 OF 30 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1973:111055 CAPLUS

DOCUMENT NUMBER: 78:111055

TITLE: Rotaxane compounds. III. Synthesis of a rotaxane with triphenylmethyl residues as bulky groups and mass spectrometric investigations

AUTHOR(S): Scill, Gottfried; Zuercher, Clemens; Vetter, Walter

CORPORATE SOURCE: Chem. Lab., Univ. Freiburg, Freiburg/Br., Fed. Rep. Ger.

SOURCE: Chemische Berichte (1973), 106(1), 228-35

CODEN: CHBEAM; ISSN: 0009-2940

DOCUMENT TYPE: Journal

LANGUAGE: German

GI For diagram(s), see printed CA Issue.

AB Alkylation of the diansa dibromide I with  $\text{Ph}_3\text{CLi}$  in THF at  $-20^\circ\text{C}$  under N gave 65% prerotaxane II. According to G. Schill (1967), acetal cleavage of II by HBr in  $\text{EtCO}_2\text{H}$  via the aminopyrocatechol III,  $\text{Fe}_2(\text{SO}_4)_3$  dehydrogenation via the amino-o-benzoquinone, and subsequent acid hydrolysis gave the tautomeric p-quinone IV, which on reductive acetylation by  $\text{Zn-Ac}_2\text{O-Et}_3\text{N}$  gave 41% rotaxane V. The structure of V was detd. by the ir and NMR spectra and the mass spectrum compared with that of the analog VI.

L6 ANSWER 25 OF 30 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1973:84673 CAPLUS

DOCUMENT NUMBER: 78:84673

TITLE: New benzyl derivatives of glucose

AUTHOR(S): Lakhanisky, Theresa; Neveau, Henry P.

CORPORATE SOURCE: Lab. For., Univ. Louvain, Louvain, Belg.

SOURCE: Cellulose Chemistry and Technology (1972), 6(2), 127-34

CODEN: CECTAH; ISSN: 0576-9787

DOCUMENT TYPE: Journal

LANGUAGE: English

AB  $\text{PhCH}_2$  2,4-di-O-benzyl-6-O-trityl- (I),  $\text{PhCH}_2$  2,4-di-O-benzyl-(II), and  $\text{PhCH}_2$  2,4,6-tri-O-benzyl-D-glucopyranoside (III) were prepd. and their mass spectra studied. Treatment of 3-O-allyl-1,2:5,6-di-O-isopropylidene- $\alpha$ -D-glucofuranose with  $\text{PhCH}_2\text{OH}$  in HCl gave  $\text{PhCH}_2$  3-O-allyl-D-glucopyranoside (IV), which was tritylated, benzylated, and isomerized to yield  $\text{PhCH}_2$  2,4-di-O-benzyl-3-O-prop-1-enyl-6-O-trityl-D-glucopyranoside (V). Treatment of V with  $\text{HgCl}_2$  in  $\text{Me}_2\text{CO-H}_2\text{O}$  followed by KI gave 46% I, whereas refluxing V in  $\text{Me}_2\text{CO}$  contg. HCl gave II. Benzylation of IV followed by isomerization and elimination of the 3-O-allyl group gave III.

L6 ANSWER 26 OF 30 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1972:488806 CAPLUS

DOCUMENT NUMBER: 77:88806

TITLE: Methylation of 2-acetamido-2-deoxy-D-hexoses

AUTHOR(S): Stoffyn, Anne; Stoffyn, Pierre; Orr, James C.

CORPORATE SOURCE: McLean Hosp. Res. Lab., Harvard Med. Sch., Belmont, MA, USA

SOURCE: Carbohydrate Research (1972), 23(2), 251-60

CODEN: CRBRAT; ISSN: 0008-6215

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Methylation of Me 2-acetamido-2-deoxy- $\alpha$ -D-glucopyranoside and -galactopyranoside gave Me 2-deoxy-3,4,6-tri-O-methyl-2-(N-methylacetamido)- $\alpha$ -D-glucopyranoside and -galactopyranoside, resp. Similar methylation of Me 2-

acetamido-2-deoxy-6-O-trityl - $\alpha$ -D-glucopyranoside, and - $\alpha$ -D-galactopyranoside followed by detritylation and acetylation gave Me 6-O-acetyl-2-deoxy-3,4-di-O-methyl-2- (N-methylacetamido)- $\alpha$ -D-glucopyranoside and - $\alpha$ -D-galactopyranoside, resp. which were sepd. and identified by gas-liq. chromatog. and mass spectra. Acid hydrolysis of these derivatives gave the corresponding hydrochlorides.

L6 ANSWER 27 OF 30 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1971:462680 CAPLUS

DOCUMENT NUMBER: 75:62680

TITLE: Alkyl-oxygen fission in the reaction of trityl acetate-18O with phenylmagnesium bromide. Mass spectra of trityl-substituted compounds-loss of carbon-12 from (C<sub>6</sub>H<sub>5</sub>)<sub>3</sub> 13CH via electron bombardment

AUTHOR(S): Shupe, Russell D.

CORPORATE SOURCE: Oklahoma State Univ., Stillwater, OK, USA

SOURCE: (1969) 155 pp. Avail.: Univ. Microfilms, Ann Arbor, Mich., Order No. 70-21,481 From: Diss. Abstr. Int. B 1971, 31(8), 4594

DOCUMENT TYPE: Dissertation

LANGUAGE: English

AB Unavailable

L6 ANSWER 28 OF 30 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1971:104513 CAPLUS

DOCUMENT NUMBER: 74:104513

TITLE: Mass spectrum of tropylium fluoroborate

AUTHOR(S): Gardner, R. J.

CORPORATE SOURCE: Chem. Dep., Univ. Aston in Birmingham, Birmingham, UK

SOURCE: Organic Mass Spectrometry (1971), 5(1), 83-5

CODEN: ORMSBG; ISSN: 0030-493X

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The mass spectrum of tropylium fluoroborate (C<sub>7</sub>H<sub>7</sub>+BF<sub>4</sub><sup>-</sup>) shows a base peak corresponding to the cationic portion of the salt (m/e 91) and intense peaks occur at m/e 109 (C<sub>7</sub>H<sub>6</sub>F<sup>+</sup>) and m/e 110 (C<sub>7</sub>H<sub>7</sub>F<sup>+</sup>). The latter peaks are probably of thermal origin. A similar rearrangement is obsd. in trityl fluoroborate (C<sub>19</sub>H<sub>15</sub>+BF<sub>4</sub><sup>-</sup> and may be a general feature of the mass spectra of aromatic fluoroborates.

L6 ANSWER 29 OF 30 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1969:449064 CAPLUS

DOCUMENT NUMBER: 71:49064

TITLE: Mass spectrometry of five classes of trityl compounds - loss of 12C from (C<sub>6</sub>H<sub>5</sub>)<sub>3</sub>13CH [triphenylmethane-13c]

AUTHOR(S): Berlin, K. Darrell; Shupe, R. D.

CORPORATE SOURCE: Oklahoma State Univ., Stillwater, OK, USA

SOURCE: Organic Mass Spectrometry (1969), 2(5), 447-66

CODEN: ORMSBG; ISSN: 0030-493X

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The mass spectra of 25 triphenylmethyl (trityl) substituted compds. were recorded. The trityl cation  $m/e$  243 appears as a peak of major intensity for all classes of compds. examd.; these contained trityl-carbon, trityl-nitrogen, trityl-oxygen or trityl-sulfur bonds. Fragmentation of the non-trityl portion of the mols. produced simple ions whose origin was predictable or of low intensity. A mechanism for the decay of the trityl cation is presented which is based upon retention of the  $\alpha$ -carbon. Supporting evidence was afforded by mass spectral anal. of  $\text{Ph}_3\text{C}^{13}\text{CH}_3$  in which all fragments from the trityl cation appear to retain nearly all of the  $^{13}\text{C}$ .

L6 ANSWER 30 OF 30 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1968:476404 CAPLUS

DOCUMENT NUMBER: 69:76404

TITLE: Mass spectrometry in structural and stereochemical problems. CLVIII.

Electron impact promoted fragmentation of triphenylmethyl ethers

AUTHOR(S): Sheikh, M. Younus; Duffield, A. M.; Djerassi, Carl

CORPORATE SOURCE: Stanford Univ., Stanford, CA, USA

SOURCE: Organic Mass Spectrometry (1968), 1(2), 251-62

CODEN: ORMSBG; ISSN: 0030-493X

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The triphenylmethyl (trityl) moiety is frequently used for the protection of alcs. but the mass spectra of such trityl ethers have hitherto escaped scrutiny. Triphenylmethyl derivs. of primary alcs. yield abundant mol. ions which permit the detn. of the isotopic purity of the parent alc. Upon electron impact the triphenylmethyl entity directs the fragmentation of trityl ethers as demonstrated by a detailed study of *n*-pentyl trityl ether and its deuterated derivs. Ions formed by migration of Ph groups were observed in the mass spectra of the trityl ethers investigated as well as in the spectrum of triphenylmethane itself. 17 references.